"enormous" has shrunk to a negative quantity. An outline or explanation of his views on this important and complex question would have profited our understanding of his conversion, but he does not give them. Two inconsiderable items of college gossip are mentioned, but we can not believe that they form the basis for so radical a change of heart on so broad a question.

One of these items is the rumor that Columbia University is about to establish a course in optometry. The reviewer himself does not think it "possible that so treacherous a blow would be struck at its medical department by the university." There is no occasion to find fault with this hopeful opinion which is wholly in accord with the facts, and controversy is impossible where agreement is complete. It may be remarked, however, that whether the university may or may not have done good to the medical school, the connection with the medical school (if the reviewer's reasoning be correct) has in fact kept out quackery which might otherwise have entered the university. This is a reason for the connection which had not occurred to Mr. Flexner, and the credit for it should be given to the editor of the *New York State Journal of Medicine.*

The second item of the reviewer is that the presidents of the universities of three medical schools were appealed to for help in last winter's battle with the anti-vivisectionists, and refused because they feared to lose contributions from "persons of large wealth." The implied argument that, in general, managers of proprietary and fee-dividing institutions, or even of separately endowed schools, are less in need of money than universities, and therefore more likely to be defiant of ignorant public opinion, deserves no serious consideration. The instance with which the writer attempts to support it rests upon a double innuendo: the innuendo of fact, that a duty rested upon the three presidents to make "personal appearance upon the platform" and that none of them appeared, is in both respects erroneous; the innuendo of motive, that the attitude towards the question of Dr. Butler, Dr. Schurman and Chancellor McCracken was controlled by their timid venality, may be left for them to answer—if there be anything in it worth answering.

Reviews of this character are to be expected. The instinct of conservatism—contentment with what is familiar—begets tradition; the break-up of tradition goes counter to this natural tendency of the mind, and often gives pain. The reformer is disliked for giving pain, and found guilty of "innovation," "arrogance" and "self-sufficiency." Even the most intelligent and profound study of conditions does not absolve him from this personal attack; such study rather intensifies it, for the more penetrating his examination of the facts, and the more unanswerable his conclusions, the less there is to be said about them and prejudice has the more to confine itself to indefinite personalities.

The epithets that are certain to be directed against Mr. Flexner need not, therefore, chafe him. If medical education have in it germs of progress, it will go forward along the lines he indicates. The best schools will adopt them; some of the inferior schools will change more slowly; others will linger and die. Imperfectly and unevenly as usual, with imperceptible gradations between the apparent stages, and against sincere and insincere opposition, progress will come.

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QUOTATIONS

THE NEW COLLEGE IN THE WEST

That a new college, however well endowed, is about to be added to the great array of colleges and universities now existing in the country, would not, of itself, be matter for special notice outside the section immediately affected. But the statements that have been made about the plans and purposes of Reed College, the institution to be opened a year hence at Portland, Ore., are of a character to attract great interest, especially when the nature and value of college education are the subject of such active discussion and controversy. There are at least two points of great

interest in the recent interview in the *Evening Post* with the president of the college that is to be.

The first is that the productive endowment of $3,000,000 with which the college starts is to be used exclusively for college work—university work will not be attempted at all. There is a wayside inn near the White Mountains, of which the cards read thus: "What, second-class? Sure! The only second-class hotel in New Hampshire." A college without a university attachment is as rare as a second-class hotel; but President Foster wishes it understood that that is what Reed College is going to be, for some time to come at least. The adoption of this program means something more than the mere devotion of the whole income of the college to the work of college teaching. It means a concentration of the thought of the president and faculty on the demands of the college, and the elimination from the college problem of some elements of difficulty that come entirely from the merging of college purposes with university ambitions. That certain great advantages come to college students from the presence of the university work alongside that of the college is undeniable; but that much confusion of purposes has also come from the combination is equally certain. Especially are the excesses of the free elective plan, against which so strong a reaction has now set in, largely to be traced to this source. The working out of a college system in a new environment, with the distinction between college and university emphatically in mind from the beginning, should prove highly interesting and instructive to the whole country.

The second point to which we have reference is closely allied to the first. "The sort of men I am looking for," said President Foster, "must be men, first of all. Second, they must be teachers. Their proficiency as research scholars will rank third in importance with me. In some of our universities, the order of these qualifications appears to have been reversed—to the detriment of the students, I believe." The fact is, of course, that the relative importance of these qualities in college teachers is altogether different from what it is in university teachers. Helmholtz was—with occasional important exceptions—a very poor lecturer, but his students got from him what they could not have got from the most perfect teacher in the world; and the same is true of many of the greatest investigators. Sometimes the power of the perfect teacher and the genius of the great investigator are combined in one man, and that, of course, is the best thing possible, whether in college or in university; but in the university, where men are being trained to be specialists and investigators themselves, the example of the great leader is of infinitely more importance than the instruction of the perfect teacher. In the college it is different, and President Foster's position is well taken. Still, even in the college, there is danger of going too far—or perhaps rather of going in the wrong direction—in the search for teaching quality. To make teaching truly effective in the higher departments of thought, a kind of enthusiasm and insight is requisite that the *mere* teacher can hardly possess; an enthusiasm and insight that come only with hard work in one's chosen intellectual domain. But, on the other hand, it is a cruel waste and injustice to put ardent young men, ready to respond to the appeal of a genuine teacher, under the instruction of a mere specialist, without sympathetic quality, without the power of expression, without the vital impulse of the true teacher; and this is what happens in hundreds of cases in our colleges. The new college will do a great service if it sets up a true standard in this extremely important matter.

With a clean sheet before him, the president of the new college on the Pacific might, we would suggest, profitably consider a question which bears on the character of his own functions and which is also intimately connected with that matter of the personal qualities of the professors on which he has laid so much stress. The autocratic college and university president is a peculiar product of America, and a product that is especially curious as contrasting with the democratic ideals of our-

political system. But it is not on the basis of an abstract doctrine of democracy that criticism of this one-man-power system rests. The position of a college professor, and even of the younger college teachers, should be a position of dignity, independence and the fullest measure of self-respect. In most of our colleges we have fallen into the habit of elevating coordination, discipline, "harmony" in the faculty, to a position of utterly factitious importance. What is wanted is not these things—or at least a very little of them is quite sufficient—but dignity, spontaneity, independence, intellectual self-assertion. In no way could President Foster more magnify his office than by belittling it. A college faculty does not need a boss; its efficiency is neither to be attained nor to be measured by the methods that apply to a factory or a department store. If what the college needs in its professors is men who are real men and true teachers, it must not treat them as wheels in a big machine. There is a vast difference in this regard between some of our colleges and others; but there is a fine opening for a new college to show what a college can be in which the idea of personal domination by the president is wholly abandoned, and that of a company of gentlemen and scholars working together, with the president simply as the efficient center of inspiration and cooperation, substituted in its stead.—*New York Evening Post.*

SCIENTIFIC BOOKS

General Biology. A Book of Outlines and Practical Studies for the General Student. By James G. Needham. Ithaca, N. Y., The Comstock Publishing Co. 1910. Pp. xiv + 542; 287 figs. Price $2.

Dr. Needham's "General Biology" is not merely a treatise on botany and zoology, as are so many books of a similar title, but it is a work whose primary aim is to teach fundamental biological facts and principles, drawing upon both plant and animal kingdoms for the material best suited for this end. In the first chapter on The Interdependence of Organisms are discussed three typical cases of the interrelation of organisms: (1) the relations between flowers and insects, (2) galls and (3) the relations between ants and aphids. There are directions to guide the student in collecting material and making observations on each of these subjects. Enough of description of the structure of plants and insects is given to enable the student to appreciate the biological relations of these organisms. This done, the study of structure is discontinued.

After this introduction to the ways of the living world the author proceeds to give the student a general notion of what the living world is. In the second chapter on The Simpler Organisms there is a brief description of several types of lower plants and animals with some suggestions for their collection and study in the laboratory. The principal forms treated are *Closterium, Spirogyra, Nitella, Amœba, Paramœcium, Stentor, Vorticella,* yeasts, molds, bacteria, slime molds, flagellates and a gregarine, in the order named, and there are sections on protoplasm, the chemical constituents of the cell, nutrition, fission and sexual reproduction.

Chapter III., on Organic Evolution, comprises about one third of the volume. It begins by continuing the general survey of the organic world begun in the previous chapter, describing an ascending series of type forms of both kingdoms. These include *Conocephalus,* a fern, and some phanerogams in plants, and *Hydra,* the earthworm and the salamander in animals, with a brief account of the embryology of the last type. This very general survey is followed by a discussion of homologies, with practical exercises for the student in tracing out homologous parts, the paleontological record, the relation of ontogeny and phylogeny, and other topics which commonly fall under the rubric of "evidences for evolution." Natural and artificial selection, orthogenesis and segregation are treated in a final section on "attempted explanations."

The various forms of reproduction, metamorphosis, regeneration and grafting are treated in a chapter on the Life Cycle. Chapter VI., on The Adjustment of Organisms to their Environment, is one of the